

Mapping UNSW Impact Global Development

Primary SDG	4: QUALITY EDUCATION
Broad theme	Training teachers and researchers
Research	Training teachers and researchers to improve the quality of teaching, research and degree curriculums
Impact region	Myanmar
Faculty	Engineering
School/Institute	School of Electrical Engineering and Telecommunications
Academic	Dr Jayashri Ravishankar, Phil Allen, Associate Professor Julien Epps
Project partners	Myanmar Engineering Council, Yangon Technological University (YTU)
Related SDGs	7: Affordable and Clean Energy
	12: Responsible Consumption and Production

Elevator pitch

Jayashri and her colleagues are training up teachers and researchers at a Myanmar university to improve the quality of power engineering study and research, positively impacting the lives of teachers and students and paving the way for more sustainable and efficient energy production in Myanmar.

The Challenge: Education degrees and equipment are outdated

As the country democratises, Myanmar is in the process of building and aligning itself with the world. Engineering is a major centrepiece in this change but staff teaching engineering at the universities lack training and research experience as the university programs only reopened in 2012. University laboratories, built over 60-70 years ago, are basic and there is a lack of compatibility among equipment donated by countries over the years. Curriculums also need updating if courses are to satisfy quality assurance standards.

UNSW's solution: Train lecturers and researchers

In 2013, Jayashri was one of a three person team of UNSW researchers that was awarded university funding to research in Myanmar. Unfamiliar with the education landscape, they consulted the Myanmar Engineering Council and were advised to approach Yangon Technological University (YTU), as YTU required significant help. YTU agreed to host a one week seminar on power engineering and signal processing conducted by Jayashri and her team. A year later, two YTU staff visited UNSW to be upskilled in course design and execution. Four seminars were then held by Jayashri and other UNSW lecturers in 2015 (on smart grids, optical fibres, electronic safety, signal modelling).

In 2016 Jayashri conducted 'teach the teacher' training for 14 YTU staff, as well as research training for 20 postgraduate students. She also delivered a subject by video to YTU postgraduate students. The strong bond between UNSW and YTU facilitated two PhD students from YTU commencing studies at UNSW in 2016 in power engineering and petroleum engineering. The power engineering PhD student is investigating the

application of micro grids in rural Myanmar. In 2018, Jayashri and Iain Skinner are looking to send 8-10 UNSW students to YTU for study and in-field experience. With further funding, Jayashri is interested in establishing a micro grid laboratory at YTU, which the PhD student from YTU could lead post thesis completion.

The Impact: Increase degree, teaching and research standards, positively impact industry

In broad terms, Jayashri is expediting YTU's understanding of what a global engineering degree and research program looks like. At the degree level, she is helping local staff to build quality curriculums and to improve their teaching and research. This will benefit students and their career paths, as well as the career paths of lecturers and researchers. A high quality degree program will also eventually impact the infrastructure industry, resulting in enhanced planning and infrastructure projects, particularly in the field of power generation. A micro grid laboratory at YTU could be the driving force that sees Myanmar source its energy needs in more sustainable ways.

Researcher

Dr Jayashri Ravishankar is a Senior Lecturer in Energy Systems at UNSW. Her research interests include power system modelling, analysis and control, renewable energy integration, smart grids and micro grids. Jayashri is also a passionate educator and has developed strong teaching and leadership skills in her discipline. She is actively involved in mentoring her peers in teaching. She has been extending this leadership to Myanmar to improve the quality of engineering education and ultimately boost the economy of the country.

Ben Falkenmire 24.07.18